

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars.

1. Drawing objection

Reconsideration and removal of the drawing objection is respectfully requested, on the basis that the “opposed direction” is identified by the arrow D2 in Figs. 3, 5, 7, and 9 of the application as originally filed, and the “direction orthogonal to the opposed direction” is identified by arrow D1 in Figs. 3, 5, 7, and 9 of the application as originally filed. Thus, every feature of the pending claims is shown in the drawings.

Accordingly, removal of the drawing objection is respectfully requested.

2. Rejection of claims 1-3, 7-11, and 17-19 under 35 U.S.C. § 112 second paragraph

Reconsideration and removal of this rejection is respectfully requested, on the basis that the recitation of a direction “orthogonal to the opposed direction” is clear and definite in view of the description in the specification and drawings as originally filed.

As described in the specification as originally filed, at least on page 2, lines 13-26, and as shown in Figs. 3, 5, 7, and 9 as originally filed, a plurality of slide portions 61 are positioned in an opposed relationship across the plug member 12 in a direction identified as “an opposed direction,” and as identified with reference numeral D2. Thus, the meaning of the recitation of the opposed direction is clear.

Further, as also described in the specification as originally filed, at least on page 2, lines 13-26, and as shown in Figs. 3, 5, 7, and 9 as originally filed, the slide portions 61 are movable in a first radial direction, identified as a direction “orthogonal

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to the opposed direction,” and as identified with reference numeral D1, which is oriented at ninety degrees with respect to the “opposed direction” D2. Further, the word “orthogonal” has its ordinary meaning, and as is understood by a person having ordinary skill in the art, refers in this context to directions that are oriented or intersecting at right angles with respect to each other.

As will be understood by a review of the specification and drawings, with particular reference to at least Figs. 2 and 3, the slide portions 61 do not “radially expand” like a split ring, but rather, the slide portions 61 slide along slide outer surface 64, via engagement with slide surfaces 63 of the slide portions 61, in the direction D1 to accommodate misalignment between the axes of the plug and the hole of the workpiece or pallet.

Accordingly, it is respectfully submitted that the recitation in claim 1 of a direction “orthogonal to the opposed direction” is clear and definite, and withdrawal of this rejection is respectfully requested.

3. Rejection of claims 1-3, 7, 9, 11, and 17-19 under 35 U.S.C. § 103(a) as being unpatentable over U.S. publication no. 20030160374 (*Yonezawa*) in view of U.S. patent no. 5,427,349 (*Obrecht*)

Reconsideration of this rejection is respectfully requested on the basis that the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to disclose each and every recited element of claim 1, and thus fails to establish a *prima facie* case of obviousness with respect to claim 1. The remaining claims depend from claim 1, and are therefore patentable as containing all of the recited elements of claim 1, as well as for their respective recited features.

By way of review, the embodiment of claim 1 requires a positioning apparatus that includes a plug member projecting from a first block and adapted for insertion into a positioning hole in a second block. A plurality of slide portions are arranged

around the plug member and are opposed to each other across the plug member in an opposed direction. The slide portions are arranged for movement in a first radial direction that is substantially orthogonal to the opposed direction. A first pressing member is arranged outside the slide portions in a diametrically expandable and contractible, and an axially movable manner. A second pressing member is arranged outside the slide portions and inside the first pressing member in a diametrically expandable and contractible, and an axially movable manner. The first pressing member is arranged to be driven toward the first block by a drive arrangement such that the slide portions expand the first pressing member in a second radial direction, different from the first radial direction.

In contrast to the embodiment of claim 1, the *Yonezawa* publication fails to disclose at least a *second* pressing member that is diametrically expandable and contractible or a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction.

The structure identified by reference numeral 13 in the *Yonezawa* publication are slant outer surfaces 13 (paragraph [0046]), and cannot be considered slide portions as recited in pending claim 1 since the slant outer surfaces 13, while arranged across a plug member 12 (paragraph [0046]) in an opposed direction (Figs. 3A, 3B), do not move in a first radial direction that is substantially orthogonal to the opposed direction.

If the slant outer surfaces 13 are modified to radially expand outward, as is suggested to be an obvious modification in the Office action on page 5, this structure would still not disclose slide portions that move in a first radial direction that is substantially orthogonal to the opposed direction, but rather, would disclose surfaces 13 that move in the same direction as the opposed direction.

Specifically, the slide portions recited in pending claim 1 slide in an orthogonal direction with respect to the direction in which the slide portions are arranged in an opposed configuration. In other words, the slide portions do not “radially expand,” but rather slide in a radial direction that is orthogonal to the opposed direction. A reconfiguration of the slant outer surfaces 13 of the *Yonezawa* publication to radially expand will simply provide surfaces that move in the *same* direction as the opposed direction, and not in a radial direction that is *orthogonal* to the opposed direction, as is required by pending claim 1.

Accordingly, even if such a modification were made to the slant outer surfaces 13 to provide radial expansion, the *Yonezawa* publication would still fail to disclose a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

Further, the *Yonezawa* publication discloses an annular intermediate member 15 arranged around the plug member 12 (paragraph [0047]). The intermediate member 15 has an inner periphery that includes three slant inner surfaces 17 opposed to the slant outer surfaces 13 of the plug member 12 (paragraph [0049]). Three metal balls 18, or rolling members, or cylindrical or spherical rolling members, are inserted between the respective slant outer surfaces 13 and the slant inner surfaces 17 (paragraph [0050]). In use, the slant inner surfaces 17 make a wedging engagement with the slant outer surfaces 13 through the balls 18 (paragraph [0057]).

While there is a possibility that the balls 18 may move radially outwardly and axially along the slant inner surfaces 17, the balls 18 do not diametrically expand and contract, as is required of the second pressing member recited in claim 1. Additionally, while the annular intermediate member 15 of the *Yonezawa* publication is capable of diametrically expanding and contracting, the Office action on page 3 has identified the annular intermediate member 15 as corresponding to the first press

member recited in pending claim 1. Thus, the annular intermediate member 15 cannot also be considered as a second pressing member as recited in pending claim 1.

Accordingly, the *Yonezawa* publication fails to disclose at least a *second* pressing member that is diametrically expandable and contractible, as is required by pending claim 1.

The Office action turns to the *Obrecht* patent to cure the above deficiencies of the *Yonezawa* publication, however, as will be discussed below, the *Obrecht* patent fails to provide for the shortcomings of the *Yonezawa* publication.

The *Obrecht* patent describes an adjustable base assembly that is provided to adjust the horizontal and vertical position of a fabrication tool by use of a movable carriage assembly that can move horizontally and includes wedging structures to vertically adjust a surface (abstract; col. 1, lines 30-66).

Specifically, the *Obrecht* patent describes a lower wedge plate assembly 12 with a lower wedge plate 30, an upper wedge plate assembly 18 with an upper wedge plate 60, and a pair of wedge blocks 20, 21. The lower wedge plate 30 includes an upper surface 30a defining a pair of upwardly converging wedge faces 30b that converge at an apex 30c (col. 3, lines 25-27). The upper wedge plate 60 includes a lower surface 60a defining a pair of downwardly converging wedge faces 60b converging at an apex 60c (col. 4, lines 25-27). Each wedge block 20, 21 includes converging upper and lower wedge faces 20d, 21d, and 20e, 21e that are inclined from the horizontal at an angle equal to the angle of inclination of the wedge faces 30b and 60b of the lower and upper wedge plates (col. 4, lines 38-45). Each wedge block includes a threaded bore and receives a vertical adjustment screw 70 therein.

The wedge blocks are sandwiched between the upper and lower wedge plates with their lower wedge faces 20e, 21e in sliding engagement with a respective wedge

face 30b of the lower wedge plate and the upper wedge faces 20d, 21d in sliding engagement with the wedge faces 60b of the upper wedge plate (col. 5, lines 22-29).

By adjusting the screw 70 via a control knob, the wedge blocks can be slid axially closer together or spaced further apart, such that the upper and lower wedge plates can be pushed apart or brought closer together (col. 5, lines 48-61).

There is no disclosure, however, that the wedge blocks 20, 21 are diametrically expandable and contractible, as is required of the second pressing member recited in claim 1.

Additionally, if the sliding wedge blocks 20, 21 of the *Obrecht* patent were used in place of the rolling balls 18 of the *Yonezawa* publication, the positioning device of the *Yonezawa* publication would cease to function. Specifically, since the inner and outer slant surfaces of the *Yonezawa* publication have the same slanting orientation, the wedge shaped blocks of the *Obrecht* patent would not allow relative movement or clamping engagement between the inner and outer slant surfaces. Accordingly, there is no reason that a skilled artisan would have replaced the balls 18 of the *Yonezawa* publication with the wedge blocks 20, 21 of the *Obrecht* patent, since such a replacement would destroy the function of the positioning device of the *Yonezawa* publication. According to MPEP §2143.01 (V), the proposed combination cannot render the prior art unsatisfactory for its intended purpose.

Further, the *Yonezawa* publication specifically describes rolling members positioned between the inner and outer slant surfaces, and there is no reason that a skilled artisan would have replaced the rolling members of the *Yonezawa* publication with the sliding members of the *Obrecht* patent, since again, such a change would destroy the function of the positioning device of the *Yonezawa* publication.

Additionally, the *Obrecht* patent fails to disclose a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a

first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

Even if the lower wedge plate 30 of the *Obrecht* patent were to be considered as a slide member (as asserted in the Office action on page 4), there is no reason why a skilled artisan would add the lower wedge plate 30, and all of the associated structure required to move the wedge plate horizontally (see for example bearing assemblies 42, 44 and horizontal adjustment screw assembly 16), to the positioning device of the *Yonezawa* publication. In particular, there is simply no space between the balls 18 and the plug member of the *Yonezawa* publication in which to place all of the necessary structure to allow the wedge plate of the *Obrecht* patent to move horizontally.

Further, there is particularly no reason to provide a plurality of lower wedge plates, and all of the associated structure required to move the wedge plate horizontally, to the positioning device of the *Yonezawa* publication since there is simply no space for even a single wedge plate and associated structure between the balls 18 and the plug member of the *Yonezawa* publication. And, absent the improper hindsight use of the applicants' own disclosure, there is no reason to provide any slide members to the positioning device of the *Yonezawa* publication.

Contrary to the assertion on pages 5 and 6 of the Office action, a person having ordinary skill in the art would not "merely substitute one form of expansion for another" by replacing the balls 18 of the *Yonezawa* publication with the wedges of the *Obrecht* patent. Instead, the entire expansion structure of the *Obrecht* patent, including the adjustment screws and knobs are required for the expansion structure of the *Obrecht* patent to properly function. Thus, the entire expansion structure of the *Obrecht* patent, including the adjustment screws, knobs, and support plates would need to be added to the positioning device of the *Yonezawa* publication. This proposed combination is simply unworkable, since the plug member 12, the slant

outer surfaces 13, the balls 18, and the intermediate annular member 15 are all positioned within the positioning hole 5 of the movable member 3 of the *Yonezawa* publication during positioning.

Thus, there is no way a user would be able to actuate the necessary control knobs and adjustment screws of the expansion structure of the *Obrecht* patent if such structure were added to the positioning device of the *Yonezawa* publication. Accordingly, a person having ordinary skill in the art would not have modified the positioning device of the *Yonezawa* publication with the expansion structure of the *Obrecht* patent, since the expansion structure of the *Obrecht* patent as placed within the hole 5 of the movable member 3 of the *Yonezawa* publication would not provide the desired expansion, since a user would not be able to manipulate the control knobs.

Further still, even if such a combination were made, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent would still fail to disclose at least a *second* pressing member that is diametrically expandable and contractible and a plurality of slide portions arranged across the plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as is required by pending claim 1.

As discussed above, each of the *Yonezawa* publication and the *Obrecht* patent fail to disclose a *second* pressing member that is diametrically expandable or a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction, as required by pending claim 1. Thus, the proposed combination of the *Yonezawa* publication and the *Obrecht* patent must also fail to disclose a *second* pressing member that is diametrically expandable and a plurality of slide portions opposed to each other across a plug member in an opposed direction and movable in a first radial direction that is substantially orthogonal to the opposed direction.



Reponse to Office action dated August 6, 2008  
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Further, a skilled artisan would not have had any reason to combine the entire structure of the wedge assembly of the *Obrecht* patent (as would be necessary for the expansion structure to properly function) with the positioning device of the *Yonezawa* publication for the reasons discussed above.

Accordingly, since the proposed combination of the *Yonezawa* publication and the *Obrecht* patent fails to disclose every feature of claim 1, and since a skilled artisan would not have had any reason to combine the entire structure of the wedge assembly of the *Obrecht* patent with the positioning device of the *Yonezawa* publication, a *prima facie* case of obviousness cannot be maintained with respect to claim 1, and withdrawal of this rejection is respectfully requested.

As mentioned above, applicants submit that independent claim 1 is patentable and therefore, claims 2, 3, 7, 9, 11, and 17-19, which depend from claim 1, are also considered to be patentable as containing all of the elements of claim 1, as well as for their respective recited features.

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4. Rejection of claims 8 and 10 under 35 U.S.C. § 103(a) as being unpatentable over U.S. publication no. 20030160374 (*Yonezawa*) in view of U.S. patent no. 5,427,349 (*Obrecht*) and further in view of U.S. patent no. 6,604,738 (*Haruna*)

Reconsideration of this rejection is respectfully requested on the basis that the *Haruna* patent fails to provide for the deficiencies of the *Yonezawa* publication and the *Obrecht* patent, as discussed above with respect to amended claim 1, from which claims 8 and 10 depend.

Since claims 8 and 10 depend from claim 1 they are also considered to be patentable as containing all of the elements of claim 1, as well as for their respective recited features.

Accordingly, withdrawal of this rejection is respectfully requested.

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5. Conclusion

In view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicants' attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,  
  
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